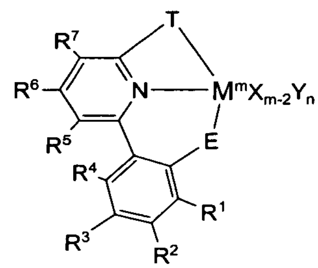
What is claimed is:

1. A catalyst of formula:



,

wherein:

R^1–R^7 are each independently -H, -halo, $-NO_2$, -CN, $-(C_1-C_{30})$hydrocarbyl, $-O(C_1-C_{30})$hydrocarbyl, $-N((C_1-C_{30})\text{hydrocarbyl})_2$, $-Si((C_1-C_{30})\text{hydrocarbyl})_3$, $-(C_1-C_{30})$heterohydrocarbyl, -aryl, or -heteroaryl, each of which may be unsubstituted or substituted with one or more $-R^8$ groups; or two R^1–R^7 may be joined to form cyclic group;

R^8 is -halo, $-(C_1-C_{30})$hydrocarbyl, $-O(C_1-C_{30})$hydrocarbyl, $-NO_2$, -CN, $-Si((C_1-C_{30})\text{hydrocarbyl})_3$, $-N((C_1-C_{30})\text{hydrocarbyl})_2$, $-(C_1-C_{30})$heterohydrocarbyl, -aryl, or -heteroaryl;

T is $-CR^9R^{10}-$ wherein R^9 and R^{10} are defined as for R^1 above;

E is a Group 16 element;

M is a metal selected from the group consisting of metallic Group 3-Group 10 elements and the Lanthanide series elements;

m is the oxidation state of the M;

X is R^1 excluding -H, wherein X is bonded to M;

Y is neutral ligand datively bound to M; and

n is an integer ranging from 0 to 5.

2. The catalyst of claim 1, wherein M is titanium, zirconium or hafnium.

3. The catalyst of claim 2, wherein X is halide, unsubstituted $-(C_1-C_{30})$hydrocarbyl or substituted $-(C_1-C_{30})$hydrocarbyl.

4. The catalyst of claim 3, wherein X is benzyl.

5. The catalyst of claim 2, wherein E is -O-.

6. An olefin polymerization catalyst system prepared from the catalyst of claim 1 and an activator.

7. The olefin polymerization catalyst of claim 6, wherein the activator is selected from the group consisting of trimethylaluminum, triethylaluminum, tri-isobutylaluminum, tri-n-octylaluminum, methylaluminum dichloride, ethylaluminum dichloride, dimethylaluminum chloride, diethylaluminum chloride, aluminoxanes, tetrakis(pentafluorophenyl)borate, dimethylphenylammonium tetra(pentafluorophenyl)borate, trityl tetra(pentafluorophenyl)borate, tris(pentafluorophenyl)boron, tris(pentabromophenyl)boron, and mixtures thereof.

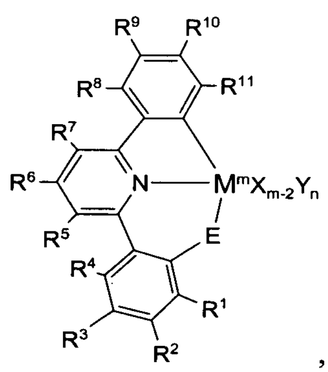
8. A method for polymerizing an olefin comprising contacting an olefin with the olefin polymerization catalyst system of claim 7.

9. The method of claim 8, wherein the olefin is ethylene, propylene, 1-butene, 2-pentene, 1-hexene, 1-octene, styrene, 1,3-butadiene, norbornene, each of which may be substituted or unsubstituted, or mixtures thereof.

10. The method of claim 9, wherein the olefin is ethylene or 1-hexene.

11. The method of claim 8, wherein at least one of R^1-R^7 and R^9-R^{10} is selected from the group consisting of -C(halide)$_3$, CH(halide)$_2$ and -CH$_2$(halide).

12. A catalyst of formula:



, wherein

R^1–R^{11} each independently -H, -halo, -NO$_2$, -CN, -(C$_1$-C$_{30}$)hydrocarbyl, -O(C$_1$-C$_{30}$)hydrocarbyl, -N((C$_1$-C$_{30}$)hydrocarbyl)$_2$, -Si((C$_1$-C$_{30}$)hydrocarbyl)$_3$, -(C$_1$-C$_{30}$)heterohydrocarbyl, -aryl, -heteroaryl, each of which may be unsubstituted or

substituted with one or more $-R^{12}$ groups; or two R^1–R^7 may be joined to form a cyclic group;

each R^{12} is independently -halo, $-NO_2$, -CN, $-(C_1\text{-}C_{30})$hydrocarbyl, $-O(C_1\text{-}C_{30})$hydrocarbyl, $-N((C_1\text{-}C_{30})\text{hydrocarbyl})_2$, $-Si((C_1\text{-}C_{30})\text{hydrocarbyl})_3$, $-(C_1\text{-}C_{30})$heterohydrocarbyl, -aryl, or -heteroaryl;

E is a Group 16 element;

M is a metal selected from the group consisting of metallic Group 3 - Group 10 elements and the Lanthanide series elements;

m is the oxidation state of M;

X is R^1 excluding -H, wherein X is bonded to M;

Y is neutral ligand datively bound to M; and

n is an integer ranging from 0 to 5.

13. The catalyst of claim 12, wherein M is titanium, zirconium or hafnium.

14. The catalyst of claim 13, wherein M is Ti or Zr; E is -O-; m is 4; n is 0 or 1; and X is halo, $-(C_1\text{-}C_{30})$hydrocarbyl or benzyl.

15. The catalyst of claim 13, wherein R^{11} is $-CF_3$.

16. The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^2 and R^4-R^{11} are -H; X is $-CH_2(C_6H_5)$; and n is 0.

17. The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^2 and R^4-R^{11} are -H; X is -Cl; n is 1; and Y is -tetrahydrofuran.

18. The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^9 and R^{11} are $-CF_3$; R^2, R^4-R^8 and R^{10} are -H; X is $-CH_2(C_6H_5)$; and n is 0.

19. The catalyst of claim 14, wherein M is Ti; R^1 and R^3 are $-C(CH_3)_3$; R^9 and R^{11} are $-CF_3$; R^2, R^4-R^8 and R^{10} are -H; X is $-CH_2(C_6H_5)$; and n is 0.

20. The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^9 is $-CF_3$; R^2, R^4-R^8 and R^{10}-R^{11} are -H; X is $-CH_2(C_6H_5)$; and n is 0.

21. The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^9 is $-CF_3$; R^{11} is -F; R^2, R^4-R^8 and R^{10} are -H; X is -Cl; n is 1; and Y is tetrahydrofuran.

22. An olefin polymerization catalyst system prepared from the catalyst of claim 12 and an activator.

23. The olefin polymerization catalyst system of claim 22, wherein the activator is selected from the group consisting of trimethylaluminum, triethylaluminum, tri-isobutylaluminum, tri-n-octylaluminum, methylaluminum dichloride, ethylaluminum dichloride, dimethylaluminum chloride, diethylaluminum chloride, aluminoxanes, tetrakis(pentafluorophenyl)borate, dimethylphenylammonium tetra(pentafluorophenyl)borate, trityl tetra(pentafluorophenyl)borate, tris(pentafluorophenyl)boron, tris(pentabromophenyl)boron, and mixtures thereof.

24. A method for polymerizing an olefin comprising contacting an olefin with the olefin polymerization catalyst system of claim 23.

25. The method of claim 24, wherein the olefin is ethylene, propylene, 1-butene, 2-pentene, 1-hexene, 1-octene, styrene, 1,3-butadiene, norbornene, each of which may be substituted or unsubstituted, or mixtures thereof.

26. The method of claim 25, wherein the olefin is ethylene or 1-hexene.

27. The method of claim 24, wherein at least one of R^1-R^{11} is selected from the group consisting of -C(halide)$_3$, CH(halide)$_2$ and -CH_2(halide).